

2/61 (new). The method according to claim 60 in which the composition further comprises human neonatal or fetal hematopoietic progenitor cells derived from the blood.

3/62 (new). The method according to claim 60 in which the composition comprises whole neonatal or fetal blood.

63 (new). A method for treating a human patient having a disease or disorder comprising

- (a) growing *in vitro* a first composition comprising human neonatal or fetal hematopoietic stem cells derived from the blood; and
- (b) introducing into the patient a second composition comprising the human neonatal or fetal hematopoietic stem cells derived from the blood.

64 (new). The method according to claim 63 in which the first composition and the second composition further comprise human neonatal or fetal hematopoietic progenitor cells derived from the blood.

65 (new). The method according to claim 63 in which the composition comprises whole neonatal or fetal blood.

66 (new). The method according to claim 60 in which a heterologous gene sequence is stably incorporated in the stem cells.

4/67 (new). The method according to claim 60 in which the patient has a failure or dysfunction of normal blood cell production and maturation.

5/68 (new). The method according to claim 67 in which the patient has anemia.

6/69 (new). The method according to claim 60 in which the patient has a hematopoietic malignancy.

7 ~~70~~<sup>6</sup> (new). The method according to claim ~~60~~<sup>6</sup> in which the hematopoietic malignancy is a leukemia.

8 ~~71~~<sup>6</sup> (new). The method according to claim ~~60~~<sup>6</sup> in which the hematopoietic malignancy is a lymphoma.

9 ~~72~~<sup>1</sup> (new). The method according to claim ~~60~~<sup>1</sup> in which the patient has an autoimmune disease.

10 ~~73~~<sup>1</sup> (new). The method according to claim ~~60~~<sup>1</sup> in which the patient has a genetic disorder.

11 ~~74~~<sup>1</sup> (new). The method according to claim ~~60~~<sup>1</sup> in which the patient is immunodeficient.

12 ~~75~~<sup>11</sup> (new). The method according to claim ~~74~~<sup>11</sup> in which the immunodeficiency is by reason of irradiation.

13 ~~76~~<sup>11</sup> (new). The method according to claim ~~74~~<sup>11</sup> in which the immunodeficiency is by reason of chemotherapy.

14 ~~77~~<sup>11</sup> (new). The method according to claim ~~74~~<sup>11</sup> in which the immunodeficiency is by reason of infection by a pathogenic microorganism.

15 ~~78~~<sup>11</sup> (new). The method according to claim ~~74~~<sup>11</sup> in which the patient has a malignant solid tumor.

16 ~~79~~<sup>1</sup> (new). The method according to claim ~~60~~<sup>1</sup> in which the patient has Fanconi's anemia.

17 ~~80~~<sup>1</sup> (new). The method according to claim ~~60~~<sup>1</sup> in which the patient has a hypoproliferative stem cell disorder.

18 ~~81~~<sup>1</sup> (new). The method according to claim ~~60~~<sup>1</sup> in which the patient is infected by a pathogen.

sub 10 ~~82~~<sup>1</sup> (new). A method for treating a human patient having a disease or disorder comprising:

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cont

- (c) isolating human neonatal or fetal blood components comprising hematopoietic stem cells;
- (d) cryopreserving the blood components;
- (e) thawing the blood components; and
- (f) introducing the blood components into the patient.

20/83 (new). The method according to claim 82<sup>19</sup> in which the stem cells are autologous to the patient.

21/84 (new). The method according to claim 82<sup>19</sup> in which the stem cells are syngeneic to the patient.

22/85 (new). The method according to claim 82<sup>19</sup> in which the stem cells are allogeneic to the patient.

23/86 (new). The method according to claim 82<sup>19</sup> in which the blood components comprise whole blood.

24/87 (new). The method according to claim 82<sup>19</sup> in which the blood components are isolated by collection from an umbilical cord.

25/88 (new). The method according to claim 82<sup>19</sup> in which the blood components are isolated by collection from a placenta.

26/89 (new). The method according to claim 82<sup>19</sup> in which the patient is immunodeficient.

27/90 (new). The method according to claim 89<sup>19</sup> in which the immunodeficiency is by reason of irradiation.

28/91 (new). The method according to claim 89<sup>19</sup> in which the immunodeficiency is by reason of chemotherapy.

29/92 (new). The method according to claim 89<sup>19</sup> in which the immunodeficiency is by reason of infection by a pathogen.

30 <sup>26</sup>93 (new). The method according to claim ~~89~~<sup>19</sup> in which the patient has a malignant solid tumor.

31 <sup>19</sup>94 (new). The method according to claim ~~82~~<sup>31</sup> in which the patient has anemia.

32 <sup>31</sup>95 (new). The method according to claim ~~94~~<sup>19</sup> in which the patient has Fanconi's anemia.

33 <sup>19</sup>96 (new). The method according to claim ~~82~~<sup>34</sup> in which the patient has a hypoproliferative stem cell disorder.

34 <sup>34</sup>97 (new). The method according to claim ~~82~~<sup>19</sup> in which the patient has a hematopoietic malignancy.

35 <sup>19</sup>98 (new). The method according to claim ~~97~~<sup>34</sup> in which the hematopoietic malignancy is a leukemia.

36 <sup>34</sup>99 (new). The method according to claim ~~97~~<sup>19</sup> in which the hematopoietic malignancy is a lymphoma.

37 <sup>19</sup>100 (new). The method according to claim ~~82~~<sup>19</sup> in which the patient has an autoimmune disease.

38 <sup>19</sup>101 (new). The method according to claim ~~82~~<sup>19</sup> in which the patient has a hemolytic disorder.

39 <sup>19</sup>102 (new). The method according to claim ~~82~~<sup>19</sup> in which the patient has a genetic disorder.

103 (new). The method according to claim ~~82~~<sup>19</sup> which further comprises, after step (a) or step (c), introducing a heterologous gene sequence into the stem cells, which gene sequence is stably incorporated and capable of expression by progeny of the stem cells.

sub 104 (new). A method for treating a human patient having a disease or disorder comprising:

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- (g) isolating human neonatal or fetal blood components comprising hematopoietic stem and progenitor cells;
  - (h) cryopreserving the blood components;
  - (i) thawing the blood components; and
  - (j) introducing the blood components into the patient.

105 (new). The method according to claim 105 in which the stem and progenitor cells are autologous to the host.

106 (new). The method according to claim 105 in which the stem and progenitor cells are syngeneic to the host.

107 (new). The method according to claim 105 in which the stem and progenitor cells are allogeneic to the host.

108 (new). The method according to claim 108 in which the host has Fanconi's anemia.

109 (new). The method according to claim 105 in which the blood components are isolated by collection from an umbilical cord.

110 (new). A method for treating a human patient having a disease or disorder comprising introducing into the patient a composition comprising human neonatal or fetal hematopoietic stem cells derived from the blood, in which the stem cells have been previously cryopreserved.

111 (new). The method according to claim 60 in which the stem cells are from the umbilical cord blood or placental blood of a single human collected at the birth of said human.